

### **REMARKS**

Claims 1-25 were examined and reported in the Office Action. Claims 1-25 are rejected. Claims 3-4, 20-21 and 25 are cancelled. Claims 1, 5, 17, 19 and 22 are amended. Claims 1-2, 5-19 and 22-24 remain.

Applicant requests reconsideration of the application in view of the following remarks.

#### **I. 35 U.S.C. § 101**

It is asserted in the Office Action that claim 25 is rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. Applicant has canceled claim 25. Therefore, the 35 U.S.C. § 101 rejection is moot.

#### **II. 35 U.S.C. § 103(a)**

A. It is asserted in the Office Action that claims 1-6, 10-16 and 19-25 are rejected in the Office Action under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent 7,110,732 issued to Mostafa et al ("Mostafa") in view of U. S. patent 5,909,384 issued to Tal et al ("Tal"). Applicant respectfully traverses the aforementioned rejection for the following reasons.

According to MPEP §2142

“[t]o establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.” (*In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)).

Further, according to MPEP §2143.03, “[t]o establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. (In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).” “*All words in a claim must be considered* in judging the patentability of that claim against the prior art.” (In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970), emphasis added.)

Applicant’s claim 1 contains the limitations of

...a digital intermediate frequency signal is processed in a software-defined radio system, which is driven by software, the receiver filter building block controls the implementation of the receiver filter to make the receiver filter share common resources for the multiple communication standards, and select additionally required resources for each communication standard other than the shared resources by a switching operation, the additionally required resources including an additional filter coefficient multiplier and an additional register corresponding to an order of an additional filter function.

Applicant’s claim 19 contains the limitations of

the digital intermediated frequency signal is processed in a software-defined radio system, which is driven by software, and (c) comprises: sharing common resources according to the multiple communication standards by including a resource for setting a receiver filter having a relatively small length in a resource for setting a receiver filter having a relatively small length in a resource for setting a receiver filter having a longest length; and selecting additionally required resources for each communication standard by a switching operation, the additionally required resources including an additional filter coefficient multiplier and an additional register corresponding to an order of an additional filter function.

Mostafa discloses a subsampling receiver that converts an RF signal to baseband in wireless communications. It is asserted in the Office Action that Mostafa’s Fig. 8 discloses a “radio system.” Fig. 8 of Mostafa, however, only discloses a sub-sampling receiver, not an SDR system.

Tal discloses dynamically adapting the length of a digital communication filter. Tal further discloses that each filter is constructed to have a particular number of taps or delay units. The taps in Tal, however, as Applicant's resources include an additional filter coefficient multiplier and an additional register corresponding to an order of an additional filter function.

Therefore, even if Mostafa is combined with Tal, the resulting invention would still not teach, disclose or suggest the limitations in Applicant's: claim 1 of

a digital intermediate frequency signal is processed in a software-defined radio system, which is driven by software, the receiver filter building block controls the implementation of the receiver filter to make the receiver filter share common resources for the multiple communication standards, and select additionally required resources for each communication standard other than the shared resources by a switching operation, the additionally required resources including an additional filter coefficient multiplier and an additional register corresponding to an order of an additional filter function.

nor Applicant's claim 19 limitations of

the digital intermediated frequency signal is processed in a software-defined radio system, which is driven by software, and (c) comprises: sharing common resources according to the multiple communication standards by including a resource for setting a receiver filter having a relatively small length in a resource for setting a receiver filter having a relatively small length in a resource for setting a receiver filter having a longest length; and selecting additionally required resources for each communication standard by a switching operation, the additionally required resources including an additional filter coefficient multiplier and an additional register corresponding to an order of an additional filter function.

Since neither Mostafa, Tal, and therefore, nor the combination of the two, teach, disclose or suggest all the limitations of Applicant's amended claims 1 and 19, as listed above, Applicant's amended claims 1 and 19 are not obvious over Mostafa in view of Tal since a *prima facie* case of obviousness has not been met under MPEP §2142. Additionally, the claims that directly or indirectly depend from amended claims 1 and 19, namely claims 2, 5-610-16, and 20-24, respectively, would also not be obvious over Mostafa in view of Tal for the same reason.

Accordingly, withdrawal of the 35 U.S.C. § 103(a) rejections for claims 1-6, 10-16 and 19-25 are respectfully requested.

**B.** It is asserted in the Office Action that claims 7-9 are rejected in the Office Action under 35 U.S.C. 103(a) as being unpatentable over Mostafa, in view of Tal, further in view of U. S. patent 6,678,317 issued to Murakami et al ("Murakami"). Applicant respectfully traverses the aforementioned rejection for the following reasons.

Applicant's claims 7 and 9 indirectly depend on amended claim 1. Applicant has addressed Mostafa in view of Tal regarding amended claim 1 above in section I(A).

Murakami discloses an adaptive equalizer device and a method for controlling an adaptive equalizer in digital communications, such as digital cable television. Murakami, however, does not teach, disclose or suggest the limitations in Applicant's: claim 1 of

a digital intermediate frequency signal is processed in a software-defined radio system, which is driven by software, the receiver filter building block controls the implementation of the receiver filter to make the receiver filter share common resources for the multiple communication standards, and select additionally required resources for each communication standard other than the shared resources by a switching operation, the additionally required resources including an additional filter coefficient multiplier and an additional register corresponding to an order of an additional filter function.

Since neither Mostafa, Tal, Murakami, and therefore, nor the combination of the three, teach, disclose or suggest all the limitations of Applicant's amended claim 1, as listed above, Applicant's amended claim 1 is not obvious over Mostafa in view of Tal and Murakami since a *prima facie* case of obviousness has not been met under MPEP §2142. Additionally, the claims that indirectly depend from amended claim 1, namely claims 7 and 9, would also not be obvious over Mostafa in view of Tal and Murakami for the same reason.

Accordingly, withdrawal of the 35 U.S.C. § 103(a) rejections for claims 7-9 are respectfully requested.

C. It is asserted in the Office Action that claims 17 and 18 are rejected in the Office Action under 35 U.S.C. 103(a) as being unpatentable over Murakami in view of Tal. Applicant respectfully traverses the aforementioned rejection for the following reasons.

Applicant's amended claim 17 contains the limitations of

the additionally required resources including an additional filter coefficient multiplier and an additional register corresponding to an order of an additional filter function, the digital filter shares the common resources by including a resource for setting a filter having a relatively small length in a resource for setting a filter having a largest length, and the digital filter operates in a digital intermediate frequency signal processing device in a software-defined radio.

Murakami discloses an adaptive equalizer device and a method for controlling an adaptive equalizer in digital communications, such as digital cable television. Tal discloses dynamically adapting the length of a digital communication filter. Tal further discloses that each filter is constructed to have a particular number of taps or delay units. The taps in Tal, however, as Applicant's resources include an additional filter coefficient multiplier and an additional register corresponding to an order of an additional filter function.

Even if Murakami and Tal were combined, however, the resulting invention would still not teach, disclose or suggest Applicant's amended claim 17 limitations of

the additionally required resources including an additional filter coefficient multiplier and an additional register corresponding to an order of an additional filter function, the digital filter shares the common resources by including a resource for setting a filter having a relatively small length in a resource for setting a filter having a largest length, and the digital filter operates in a digital intermediate frequency signal processing device in a software-defined radio.

Since neither Murakami, Tal, and therefore, nor the combination of the two, teach, disclose or suggest all the limitations of Applicant's amended claim 17, as listed above, Applicant's amended claim 17 is not obvious over Murakami in view of Tal since a *prima facie* case of obviousness has not been met under MPEP §2142. Additionally, the claim that directly

depends from amended claim 17, namely claim 18, would also not be obvious over Murakami in view of Tal for the same reason.

Accordingly, withdrawal of the 35 U.S.C. § 103(a) rejections for claims 17 and 18 are respectfully requested.

**CONCLUSION**

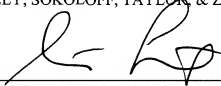
In view of the foregoing, it is submitted that claims 1-2, 5-19 and 22-24 patentably define the subject invention over the cited references of record, and are in condition for allowance and such action is earnestly solicited at the earliest possible date. If the Examiner believes a telephone conference would be useful in moving the case forward, he is encouraged to contact the undersigned at (310) 207-3800.

If necessary, the Commissioner is hereby authorized in this, concurrent and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§1.16 or 1.17, particularly, extension of time fees.

Respectfully submitted,

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**CERTIFICATE OF TRANSMISSION**

I hereby certify that this correspondence is being submitted electronically via EFS Web on the date shown below to the United States Patent and Trademark Office.

Jean Svoboda 

Date: March 6, 2007